CITY OF CHULA VISTA

DEPARTMENT OF PLANNING & BUILDING

BUILDING DIVISION

276 Fourth Avenue Chula Vista CA 91910

619-691-5272 619-585-5681 FAX

WOOD & MASONRY FENCES

FORM 4604

This form outlines the City's requirements for wood and masonry free standing walls and fences. Construction of a wood fence 6 feet or less in height, or a masonry fence 4 feet or less in height and not supporting surcharge, does not require a building permit from the City of Chula Vista Planning and Building Department. However, even though it is exempt from a building permit, the construction must comply with the requirements of the California Building Code as amended by the City of Chula Vista.
Fence heights are also regulated by the City Zoning Laws. For specific information about Zoning Laws, please call 691-5101.

I. FENCE HEIGHT

Fence height is measured from the top of the footing to the top of wall.

II. MASONRY FENCE SPECIFICATIONS

Masonry fences may be constructed using the specifications listed below. (Note that the use of plastic cement is not permitted in masonry fences located in Chula Vista.)

1. Concrete shall attain a compressive strength of f'c = 2,500 psi minimum at 28 days.
   1 part Portland Cement
   2 1/2 parts sand
   3 1/2 parts 3/4 - inch maximum diameter gravel
   7 gallons water maximum per sack or cement

2. Mortar shall attain a compressive strength of 1,800 psi minimum at 28 days, conforming to ASTM C270 or C1142.
   1 part Portland cement
   3 1/2 parts sand
   1/4 part hydrated lime or lime putty
   Note that the use of plastic cement is not permitted (2007 CBC Section 2106.5).

3. Grout shall attain a compressive strength equal to 2,000 psi minimum. One possible mix contains the following proportions by volume:
   1 part Portland cement
   3 parts sand
   1/10 part hydrated lime or lime putty
   1 to 2 parts pea gravel (3/8-inch aggregate)
   Add water until pouring consistency is achieved without segregation of the grout constituents. The use of plastic cement is not permitted (2007 CBC Section 2106.5). All grout shall be consolidated by vibrating immediately. Reconsolidate grout after initial water loss, but before plasticity is lost, to insure adequate consolidation.

4. Concrete block units shall be medium weight units conforming to ASTM C90, TYPE I (Latest Revision), F'm = 1500 psi. Concrete block units are to be staggered (common bond) and are to have the vertical continuity of the cells unobstructed.

5. All reinforcing steel shall comply with ASTM A615, grade 40 for #4 bars and grade 60 for #5 bars. Vertical steel shall be centered in the concrete block cell in which it is located.

6. Wall joint reinforcing steel shall be DUR-O-WAL WIRE conforming to ASTM AB2 and ASTM A641 -CLASS 3 FINISH. Minimum lap splice of joint reinforcement shall be 12 inches.

7. All cells containing reinforcing steel shall be solid grouted.

8. All horizontal wall reinforcing bars shall be placed in bond beam units. All joint reinforcing shall be placed in the mortared bed joint.

9. Minimum lap splice of reinforcing bars shall be 40 diameters.

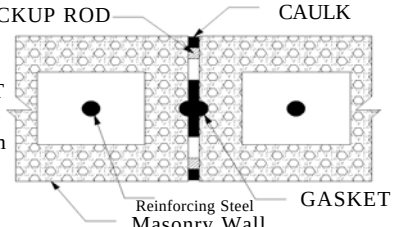
10. All footings must extend into firm undisturbed natural soil or soil which has been compacted to at least 90 percent maximum density (the applicant must submit to the City of Chula Vista Building Division a compaction report prepared by a licensed geotechnical engineer prior to obtaining a permit).

11. Walls shall not be constructed on expansive soil (expansion index greater than 20) unless the soil has been specially prepared in accordance with recommendations of a civil or geotechnical engineer. (See Form 4591 "Construction on Expansive Soil".)

12. Provide vertical control joints at 30'-0" on center maximum. (See installation example below.)

13. Fence design includes 1/2" of plaster on each side of the wall. No finishes with a total weight greater than 13 psf (summation on both sides of wall) are allowed.

EXAMPLE OF CONTROL JOINT INSTALLATION (from top to bottom of masonry wall)



Updated 12/17/07

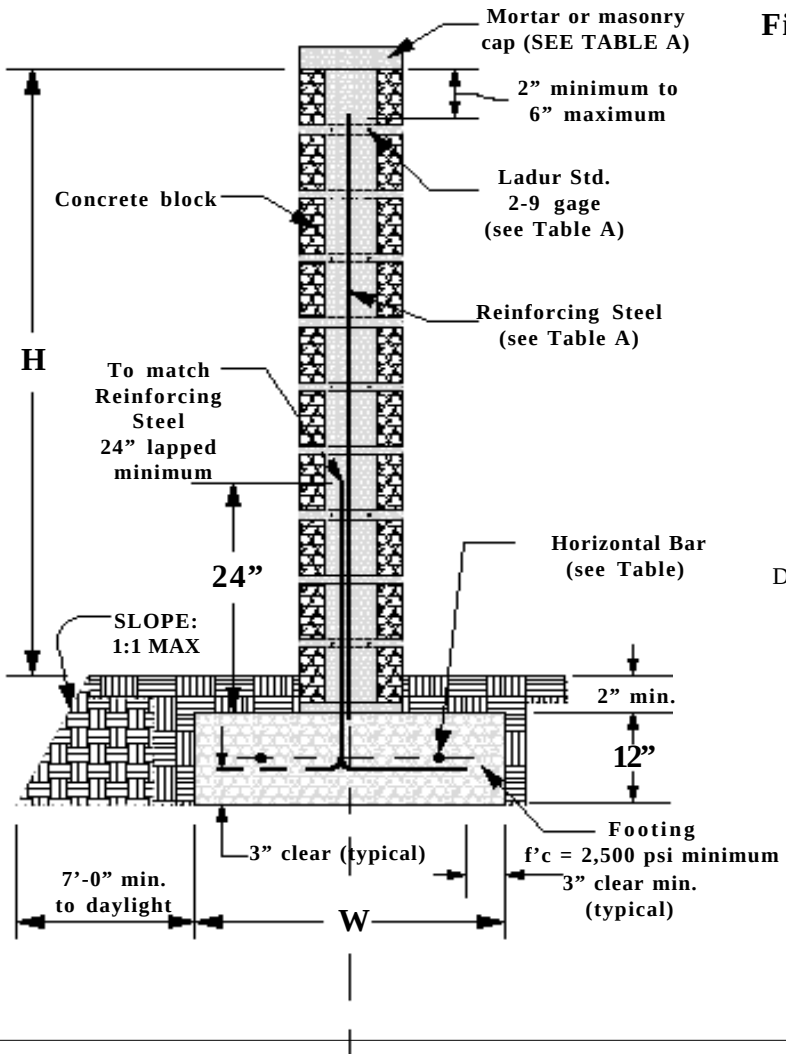


Figure 1/Masonry Fence

INSPECTIONS:

1. Call for foundation inspection after excavation for footing and after steel is tied securely in final position.
2. Call for second inspection after the blocks have been laid up to full height of the wall, with steel in place but before the grout is placed.
3. Call for final inspection when all work is completed.

■ Telephone number to call for inspection: (619) 409-5434

DESIGN CRITERIA

- Allowable soil pressure: = 1000 psf min.
- Allowable Lateral Passive Pressure = 100 psf min.
- Seismic Category D
- Wind loads based on 85 mph wind speed, exposure C
- See sheet number 1 for construction specifications

Table A/Requirements for masonry walls

Wall height, H (feet)	Material	Footing Width, W (inches)	Mortar or Masonry cap	Reinforcing Steel	Ladur Std. 2-9 gage wire @16" O.C.	Horizontal bar continous
4'	6" concrete block	24"	6" X 2" X 16"	#4 @32" O.C.	#6	2 - #4
	8" concrete block	29"	8" X 2" X 16"	#5 @32" O.C.	#8	2 - #5
	8" brick	29"	8" X 2" X 16"	#5 @32" O.C.	#8	2 - #5
5'	6" concrete block	24"	6" X 2" X 16"	#4 @32" O.C.	#6	2 - #4
	8" concrete block	29"	8" X 2" X 16"	#5 @32" O.C.	#8	2 - #5
	8" brick	29"	8" X 2" X 16"	#5 @32" O.C.	#8	2 - #5
6'	6" concrete block	24"	6" X 2" X 16"	#4 @32" O.C.	#6	2 - #4
	8" concrete block	29"	8" X 2" X 16"	#5 @32" O.C.	#8	2 - #5
	8" brick	29"	8" X 2" X 16"	#5 @32" O.C.	#8	2 - #5

NOTE: Masonry walls over 6 feet in height shall be designed by a California Registered Civil or Structural Engineer.

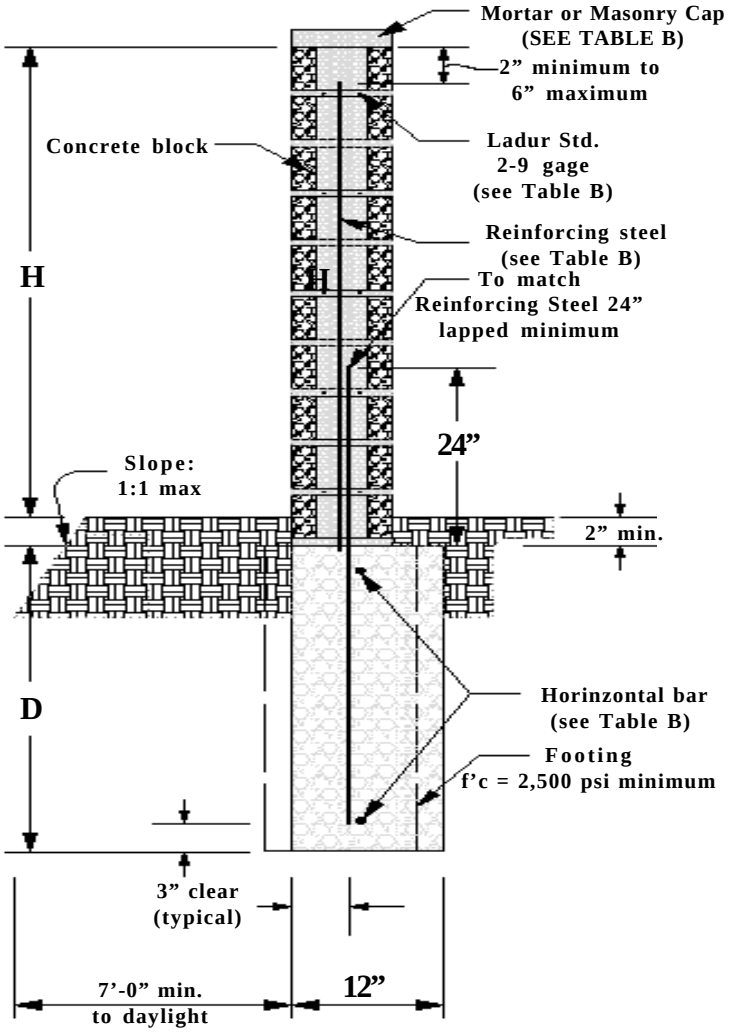


Figure 2/Masonry Fence Alternate

INSPECTIONS:

1. Call for foundation inspection after excavation for footing and steel is tied securely in final position.
2. Call for second inspection after the blocks have been laid up to full height of the wall, with steel in place but before the grout is placed.
3. Call for final inspection when all work is completed.

■ Telephone number to call for inspection: (619) 409-5434

DESIGN CRITERIA

- Allowable soil pressure: = 1000 psf min.
- Allowable Lateral Passive Pressure = 100 psf min.
- Seismic Category D
- Wind loads based on 85 mph wind speed, exposure C
- See sheet number 1 for construction specifications

Table B/Requirements for masonry walls

Wall height, H (feet)	Material	Mortar or Masonry cap	Footing Thickness, D (Depth)	Reinforcing Steel	Ladur Std. 2-9 gage wire @16" O.C.	Horizontal bar continuous
4'	6" concrete block	6" X 2" X 16"	34"	#4 @32" O.C.	#6	2 - #4
	8" concrete block	8" X 2" X 16"	41"	#5 @32" O.C.	#8	2 - #5
	8" brick	8" X 2" X 16"	41"	#5 @32" O.C.	#8	2 - #5
5'	6" concrete block	6" X 2" X 16"	34"	#4 @32" O.C.	#6	2 - #4
	8" concrete block	8" X 2" X 16"	41"	#5 @32" O.C.	#8	2 - #5
	8" brick	8" X 2" X 16"	41"	#5 @32" O.C.	#8	2 - #5
6'	6" concrete block	6" X 2" X 16"	34"	#4 @32" O.C.	#6	2 - #4
	8" concrete block	8" X 2" X 16"	41"	#5 @32" O.C.	#8	2 - #5
	8" brick	8" X 2" X 16"	41"	#5 @32" O.C.	#8	2 - #5

NOTE: Masonry walls over 6 feet in height shall be designed by a California Registered Civil or Structural Engineer.

III. WOOD/CHAINLINK FENCES

Fence specifications are shown in Table C. Details for typical wood panel lock fences are shown in figures 3 and 4. Detail for typical chainlink fence is shown in figure 5.

A. Wood posts must be No. 2 Foundation grade redwood, or pressure-treated Douglas fir-larch No.2 or better.

B. Preservative must be applied to the ends of wood posts buried in the ground.

C. Set posts/pipes in 12-inch minimum diameter concrete footing extending at least 24 inches into undisturbed natural ground or properly compacted fill. Footings must be placed over 3 inches of loose gravel as shown below. Wood posts must extend through concrete footings to gravel below.

Figure 3/Wood panel lock fence

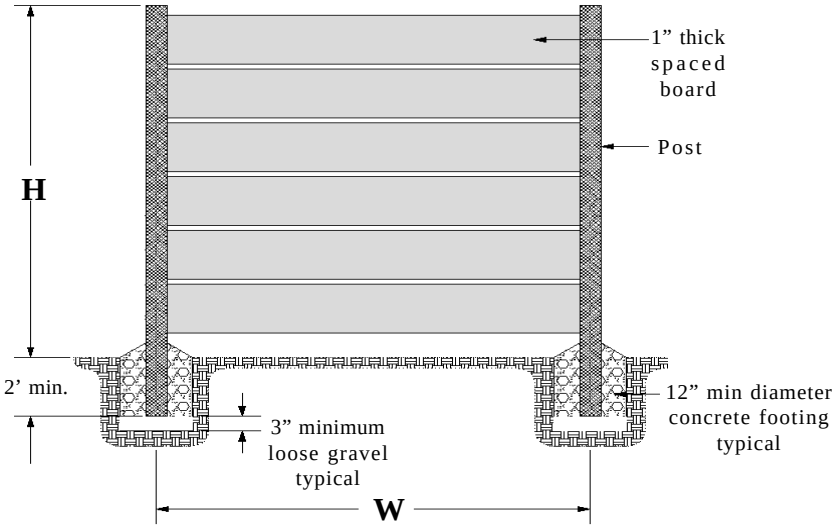


Figure 4/Wood board fence

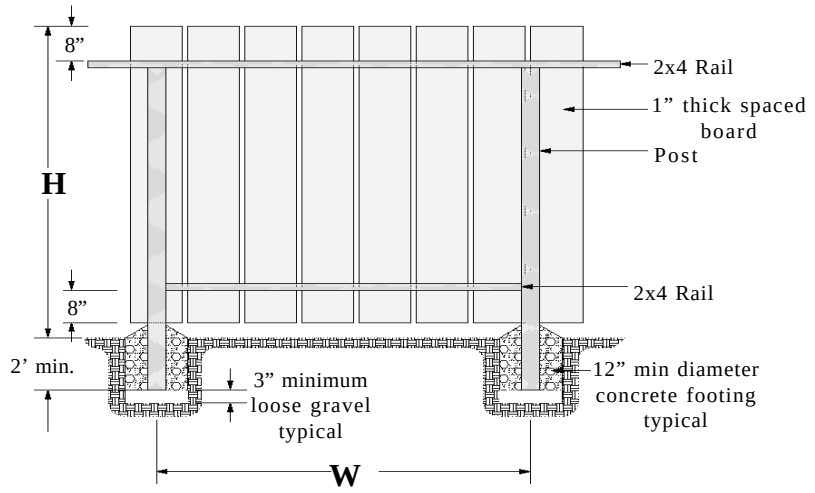


Figure 5/Chain link fence

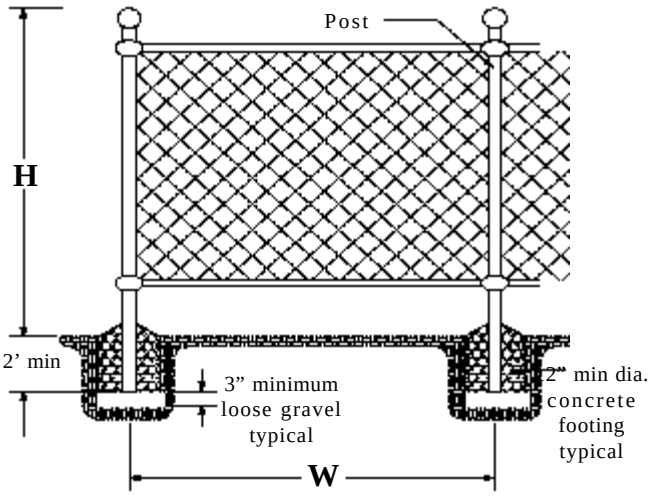


Table C/Wood and chain link fences

Height, H (feet)	Post size (inches) Wood	Post size (inches) Chainlink	Maximum Section Width, W (feet)
4'	4 x 4	3" dia	6
	4 x 6		8
5'	4 x 4	3" dia	6
	4 x 6		8
6'	4 x 4	3" dia	6
	4 x 6		8